2004 – 2005

Saskatchewan
Provincial Budget

Performance Plan

Minister's Message

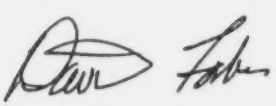
It is my pleasure to present the Performance Plan for the Safe Drinking Water Strategy for 2004-05 and beyond on behalf of all involved Government departments and agencies.

Safe drinking water is essential for human health, welfare and to the economic well-being of Saskatchewan's citizens. Saskatchewan Environment, Saskatchewan Health, Regional Health Authorities, Saskatchewan Watershed Authority, Saskatchewan Government Relations and Aboriginal Affairs, and SaskWater are committed to completing the key actions identified in this performance plan and reporting on the actual progress of the Safe Drinking Water Strategy to the people of Saskatchewan, in July 2005.

Key actions for 2004-05 are aimed at protecting and improving the quality and sustainability of Saskatchewan's drinking water supplies and source waters. Saskatchewan Environment, Saskatchewan Health, Regional Health Authorities, Saskatchewan Watershed Authority, Saskatchewan Government Relations and Aboriginal Affairs, and SaskWater will continue to work with waterworks owners, operators and other stakeholders to improve the management of drinking water and source water quality. Public safety and environmental protection through better management of drinking water and wastewater systems remain key priorities of the Strategy. Infrastructure investments and policy responses outlined within this plan will help to ensure that we have a clean supply of drinking water in the future.

In less than a year, Saskatchewan will celebrate its Centennial as a Province of Canada. While we have every reason to look back with pride on all that we have achieved together here in Canada's heartland, our Centennial also provides a wonderful opportunity to focus on the future and to think about and plan for Saskatchewan's second century.

A critical part of that future is a sustainable, reliable, safe and clean supply of drinking water that is valued by the citizens of Saskatchewan. We at Saskatchewan Environment and other involved departments and agencies look forward to meeting the challenges that lay ahead, as we work with our clients and stakeholders to improve the quality of drinking water and the sustainability of the systems which produce it.



David Forbes
Minister of Environment

104-05151/

About the Safe Drinking Water Strategy

The Safe Drinking Water Strategy (SDWS) is a comprehensive plan of action designed to deal with the risks that affect drinking water and impact the health of Saskatchewan residents. Several actions have already been taken including the restructuring of Government departments and agencies involved in water management. Other actions are in progress. The SDWS was created as one of a series of Government measures to address drinking water quality and management following the tragedy in Walkerton, Ontario where a number of people died because of contaminated drinking water. It also responds to recommendations from the North Battleford Commission of Inquiry, which examined the waterborne Cryptosporidiosis outbreak that affected that city in 2001.

This is the first comprehensive plan that has been released for the SDWS. The plan will continue to evolve as the strategic planning, performance management and public reporting processes mature and stakeholder feedback is incorporated. We will report actual progress compared to our planned progress in the *2004-05 State of Drinking Water Quality Report*, in July 2005.

Several departments and agencies are involved in implementing the Strategy including Saskatchewan Environment (SE), Saskatchewan Health, Regional Health Authorities (RHAs), Saskatchewan Watershed Authority (SWA), SaskWater, Saskatchewan Government Relations and Aboriginal Affairs (GRAA), and Saskatchewan Agriculture, Food and Rural Revitalization (SAFRR).

These departments and agencies deliver Saskatchewan's regulatory programs and advisory services for drinking water and wastewater management, water source protection, watershed planning, water allocation and most activities that may affect the quality of water. Their programs include:

- An enhanced regulatory environment administered by SE, Saskatchewan Health and RHAs, that has resulted in improved inspection and enforcement actions, water related problem follow-up, water sample analysis, ongoing efforts to promote operator certification, and efforts to enhance public information and accountability surrounding water quality;
- Comprehensive management of the planning, use, development and conservation of Saskatchewan watersheds and source waters through the Saskatchewan Watershed Authority;
- Ongoing operation of SaskWater as a self-sustaining commercial operation providing cost effective water management infrastructure and consulting services to communities; and,
- Financial support for priority drinking water and wastewater infrastructure improvement through available grant programs administered by GRAA.

Key partners outside the provincial government include the federal government through the Canada-Saskatchewan Infrastructure Program (CSIP), municipalities and other waterworks owners, the Saskatchewan Urban Municipalities Association (SUMA), the Saskatchewan Association of Rural Municipalities (SARM), the Saskatchewan Water and Wastewater Association (SWWA), and the Operator Certification Board (OCB). SARM and SUMA were key partners during consultation on the Strategy, and continue to help in its further development and implementation. The SWWA and the OCB have been instrumental in advancing waterworks operator certification in the Province. The OCB is appointed by Government, but operates at arm's length in considering the qualification and standing of water and wastewater works operators in the Province. SE leads ongoing planning and policy work for the SDWS to which all participating departments and agencies contribute.

Plan at a Glance

The partners are all working towards achieving objectives in support of meeting the Strategy's objectives. For each objective, a series of key actions for the 2004-05 fiscal year has been developed to outline how progress will be made. In addition, a set of performance measures has been developed that will be used to gauge progress in achieving the objectives. Below is a summary of the 2004-05 Performance Plan for the Safe Drinking Water Strategy.

VISION

A sustainable, reliable, safe and clean supply of drinking water that is valued by the citizens of Saskatchewan.

GOAL #1

Waterworks systems and operations provide safe, clean and sustainable drinking water

OBJECTIVE 1 - *Waterworks staff are capable and well trained*

Performance Measure:

- Number of certified operators

OBJECTIVE 2 - *Infrastructure produces water that meets the national drinking water quality guidelines*

Performance Measures:

- Per cent of facilities that meet bacteriological guidelines 90 per cent of the time
- Per cent of waterworks [regulated by SE] that meet disinfection requirements 90 per cent of the time
- Number of waterworks that do not meet Saskatchewan Environment's minimum treatment requirements [broken down by pre and post regulatory changes]

OBJECTIVE 3 - *Waterworks systems and operations are financially sustainable*

Performance Measure:

- Number of municipalities with pricing and capital investment policies in place for their waterworks

GOAL #2

The drinking water regulatory system is clear and effective

OBJECTIVE 1 - *Regulations are clear and ensure that health and drinking water quality will be protected*

Performance Measure:

- Number of accredited drinking water testing laboratories

OBJECTIVE 2 - *Professional regulatory staff have access to the tools necessary to ensure compliance*

Performance Measures:

- Under development

GOAL #3

High quality source waters are protected now and into the future

OBJECTIVE 1 - *Risks to source water quality are known*

Performance Measure:

- Number of sewage effluent discharges that represent a risk to source waters

OBJECTIVE 2 - *Watersheds are protected, natural purification and protection processes are maximized and potential for contamination is minimized*

Performance Measures:

- Number of municipalities with bylaws in place to protect their drinking water supplies
- Water Quality Index (WQI) ratings for watersheds within the province

GOAL #4

Citizens and consumers trust and value their drinking water and the operations which produce it

OBJECTIVE 1 - *Consumers value quality water and are willing to pay for it*

Performance Measure:

- Per cent of survey respondents indicating that they are willing to pay more for their drinking water

OBJECTIVE 2 - *Citizens and consumers trust the quality and reliability of their drinking water systems and are confident in the regulatory system*

Performance Measure:

- Per cent of survey respondents indicating that they are very or somewhat confident in the quality of their tap water

OBJECTIVE 3 - *Citizens have meaningful access to information about the quality of their water*

Performance Measure:

- Number of system owners that publicly release water quality results

OBJECTIVE 4 - *Reduced consumption of water*

Performance Measure:

- Average per capita consumption of water [gallons per day]

2004-05 Financial Overview

In 2004-05, the Province will invest $23.549 million in safe drinking water. Funding for this Strategy comes from various Government departments and agencies and is contained in their respective appropriation.

2004-05 APPROPRIATION	*(in thousands of dollars)*
Environment – overall coordination of the Strategy, regulation and inspection of municipal and larger waterworks and water quality standards	$ 2,525
Saskatchewan Watershed Authority – comprehensive management of the planning, use, development, conservation and protection of Saskatchewan watersheds, source waters, and water management infrastructure	6,118
Health – regulation and inspection of smaller semi-public waterworks, deals with waterborne illnesses and water sample analysis	1,106
Government Relations and Aboriginal Affairs – water infrastructure assistance under the Canada-Saskatchewan Infrastructure Program (CSIP)	13,800
Total Appropriation	$ 23,549

Trends and Issues

The following is a summary of the major items that can impact drinking water quality and the future plans of the SDWS to address the associated challenges.

SOURCE PROTECTION THROUGH LAND USE MANAGEMENT AND WATERSHED PROTECTION

Analysis of the combined pressures on water supplies through demand, use and wastewater management practices indicates that water use allocation and planning as well as watershed protection planning and implementation are key in managing Saskatchewan's water sources. Further coordination of monitoring activities among Government departments and agencies involved in source water management is planned for 2004-05 and will help to protect and enhance the quality of source water. Although source waters are generally of high quality, 89 per cent of Saskatchewan's urban and rural communities do not have bylaws to protect water sources from contamination. Legislative renewal planned by GRAA for 2005 will require municipalities to develop bylaws to protect their drinking water supplies. SWA and GRAA are working together to coordinate implementation of municipal bylaws to protect water sources and watershed plans.

SUSTAINABLE INFRASTRUCTURE AND VALUE OF WATER

During the 1990's there was a decline in municipal spending on water infrastructure and increased reliance on grants for improvements. In some cases, water treatment infrastructure, especially in rural areas, requires upgrading to meet water quality standards that are being phased in over the next several years. It is apparent that alternatives to standard infrastructure will be required to deal with the growing costs. As of February 2004, 22 SE regulated municipal waterworks did not meet minimum treatment requirements. The operation and maintenance of water supplies in northern Saskatchewan faces special challenges because it is more expensive to build and operate waterworks and retain qualified operators. Although there has been a significant investment in infrastructure improvement through provincial and federal/provincial programs such as CSIP and the Northern Water and Sewer Program, analysis indicates that dealing with costs of ensuring potable water in the future must be addressed if the SDWS is to continue to succeed in the future.

Citizens are not always aware of the true cost of providing safe drinking water and therefore undervalue their drinking water supplies. Many communities in the Province do not have water meters or pay very little for water. A May 2003 public opinion poll indicates that over 60 per cent of the Saskatchewan people in cities and almost 70 per cent in towns, villages and hamlets are willing to pay higher rates for safe drinking water. For waterworks to be financially

sustainable, rates need to be based as much as possible on cost recovery. However, for some communities full cost recovery rates would not be possible, because the charges to the consumers would be unacceptably high. Less than five per cent of municipalities currently have pricing and capital investment policies in place for their waterworks. Under the SDWS, regulatory changes will be proposed during 2004 that will require municipalities to establish and publicly report on pricing and capital investment policies and the level of cost recovery of their waterworks. Consumers will see how their current rates are established and what the rates would be if they were at full cost recovery. Consumers can determine if they are satisfied with the rate policy and whether their water system can provide safe drinking water.

REGULATORY IMPLEMENTATION AND CLARITY

As of fall 2003, Saskatchewan was comparable to or had more stringent drinking water related regulatory requirements as compared to other jurisdictions. This includes jurisdictions that have recently updated their water-related legislation. For example, all provincial and territorial jurisdictions employ the *Guidelines for Canadian Drinking Water Quality*, however only five provinces, including Saskatchewan, have formally adopted these guidelines as legally enforceable standards. Saskatchewan is one of seven jurisdictions requiring certified operators by regulation and one of nine that issues permits or approvals to operate. Nine jurisdictions, including Saskatchewan, make disinfection a mandatory requirement while six other jurisdictions do not require any water treatment other than disinfection.

Implementation challenges remain. Examples include:

- attainment of compliance with public transparency, consumer notification, quality control and emergency planning requirements;
- attainment of operator certification, particularly for smaller SE regulated communities;
- further improvements to public access to drinking water, wastewater and surface water quality information through the "SaskH_2O" website;
- introduction of a wastewater management and monitoring program while integrating these activities with federal initiatives on municipal wastewater effluents; and,
- achieving compliance with requirements such as waterworks assessment and phased in water quality standards and the related technological solution introduction.

Enhanced regulation is necessary to ensure that water treatment system owners have the incentive to act responsibly. While the regulatory framework has been significantly improved, further review of regulatory roles and reporting responsibilities is planned and will help to further clarify and ease implementation of the SDWS. The discussion of key actions which follows outlines how water related challenges will be addressed.

PUBLIC AWARENESS AND FUTURE PROTECTION OF DRINKING WATER

Members of the public play a key role in the protection of water sources and in ensuring that safe drinking water is appropriately valued. An informed public can also play a key role in ensuring that their leadership applies the appropriate level of focus on the issue of quality water. A May 2003 public opinion poll suggests that the level of public confidence in the safety of drinking water has experienced a dramatic increase, from 71 per cent in December 2001 to 81 per cent since the introduction of the Strategy in April 2002. Coupled with building public confidence, recent events such as settlement of the major lawsuit arising from the North Battleford incident, the announcement of construction of a new sewage treatment plant in North Battleford and the implementation of new water regulations, there is a potential for development of complacency around water related issues. This complacency could threaten the safety of water supplies.

Goals, Objectives, Actions and Measures

This section provides the detailed 2004-05 Performance Plan for the SDWS that supports advancement towards the vision of a sustainable, reliable, safe and clean supply of drinking water that is valued by the citizens of Saskatchewan. Under each goal a number of objectives has been established that support progress towards the broader goal statement. For each objective, a set of key actions that will be completed in 2004-05 has been identified along with the department or agency responsible. They are the means for making progress on the objectives. To assess whether key actions support the objective, a set of performance measures has been established for each objective to gauge progress towards meeting the objective.

GOAL #1

Waterworks systems and operations provide safe, clean and sustainable drinking water

OBJECTIVE 1 - *Waterworks staff are capable and well-trained*

Provision of safe drinking water is highly reliant on the knowledge and capabilities of waterworks operators and the manner in which they apply their skills to produce and monitor the quality of drinking water. Along with source protection, sound and capable infrastructure and water quality monitoring, knowledgeable operators capable of sound waterworks operations are one of the elements of a "multi-barrier approach" to ensure safe drinking water.

Key Actions for 2004-05

- To support compliance with the operator certification requirement by July 2005, actions will be taken to encourage the development of cooperative solutions with service providers, refine and implement a system of shared "regional operators" and liaise with the SWWA. Workshops and meetings will also be held to advance compliance with operator certification. [Environment]
- Keeping pace with changes in water treatment methods through annual training is vital to ensure that high quality drinking water is produced. Regulations now require that waterworks operators obtain additional training annually in order to maintain their certification status. Partners such as the Saskatchewan Institute of Applied Science and Technology (SIAST) and SWWA will be engaged to ensure the development and delivery of learning opportunities and assess critical issues such as recruitment, training and retention of operators. [Environment]
- A review of operator certification requirements will be initiated in 2004 to examine the feasibility of enhancing operator training regulations to require that all operators working at Environment regulated waterworks be certified to some level by 2010. The Certification Advisory Committee will be reactivated to aid in the review process. [Environment]

What are we measuring?	**Where are we starting from?**
Number of certified operators	505 *[September 30, 2003]*

This measure quantifies the number of waterworks operators that have been certified and directly supports gauging progress towards the objective. The greater the number of certified operators, the greater the safety of the water supply since operator knowledge will influence the quality of water produced. SE influences this measure by establishing regulations that require the certification of operators, however, it is up to each waterworks owner to ensure that they comply with the regulations.

OBJECTIVE 2 - *Infrastructure produces water that meets the national drinking water quality guidelines*

Infrastructure design, capability, condition and maintenance are critical in the production of safe drinking water. Standards, incentives, requirements, compliance measures and implementation plans must also be in place to ensure that waterworks are operated and monitored to achieve drinking water of a quality that protects human health. The *Guidelines for Canadian Drinking Water Quality* (see: http://www.hc-sc.gc.ca/hecs-sesc/water/dwgsup.htm) are used in Canada as the definitive measure of science-based safety criteria for drinking water. Saskatchewan has now adopted the guidelines as standards (see: http://www.se.gov.sk.ca/environment/protection/water/Drinking_Water_Standards_post.pdf).

Key Actions for 2004-05

- Regulatory requirements are now in place that constitute legally enforceable standards for key water quality parameters (bacteriological, chemical, radiological quality and turbidity). Inspections, record review procedures and compliance and enforcement activities will continue as needed to ensure waterworks meet the bacteriological water quality requirements now in effect. Two inspections at each surface water and priority groundwater waterworks and one inspection at every other regulated waterworks will be completed during 2004-05 for a total of up to 900 inspections. [Environment]

- To ensure compliance, the *Guidelines for Canadian Drinking Water Quality* have been included as legally enforceable requirements in *The Water Regulations* and are also being cited as enforceable waterworks conditions in all new and altered permits. Existing waterworks permits are being reviewed and revised to reflect new standards for water quality at all Environment regulated waterworks. [Environment]

- A 'cluster strategy' is being pursued to establish regional anchors from which water services are delivered. Clusters result in economies of scale, allowing the more cost efficient and effective delivery of services compared to service provision on a one-off basis. Experience over the past year has led to development and successful marketing of certified Operation and Management distribution and wastewater treatment packages for communities. [SaskWater]

- To assist northern municipalities in providing safe drinking water and ensuring sewer systems do not contaminate surrounding areas and water sources, $6.5 million has been allocated under the Northern Water and Sewer Program for 17 water projects and seven sewer projects in northern Saskatchewan, of which $2 million will be CSIP funding. In addition, $800,000 will be available under the Northern Emergency Water and Sewer Program for emergency repairs to water and sewer systems. Also, $283,000 will be made available for providing engineering, operating and maintenance expertise and advice to northern communities on their water and sewage systems. [Government Relations and Aboriginal Affairs]

- In 2004-05, the remaining funding under the CSIP will be allocated. Under the CSIP, $18 million of federal-provincial funding will be allocated to municipal applications, of which the majority will go to address critical water and sewer needs. There is $10 million remaining to allocate in the strategic component of the CSIP, from which up to $2 million will be allocated to the Northern Water and Sewer Program. This funding will assist municipalities in providing safe drinking water and ensuring sewer systems do not contaminate surrounding areas and water sources. [Government Relations and Aboriginal Affairs]

What are we measuring?	**Where are we starting from?**
Per cent of facilities that meet bacteriological guidelines 90 per cent of the time	79.2% *[September 30, 2003]*

The bacteriological quality of water is a key component of ensuring safe drinking water because of the potential for short-term (relatively immediate) health effects in the event of contamination. Bacteriological water quality is a key component of the *Canadian Guidelines for Drinking Water Quality* and Saskatchewan's drinking water quality standards. They are presently in full effect in the Province. Compliance with bacteriological water quality standards is a meaningful indicator of acute drinking water quality. SE has a high level of influence in the achievement of this requirement through regulations, education, compliance and enforcement actions.

What are we measuring?

Per cent of waterworks [regulated by Saskatchewan Environment] that meet disinfection requirements 90 per cent of the time

Where are we starting from?

79.2%
(September 30, 2003)

Disinfection of drinking water is key to preventing the spread of many waterborne diseases and is therefore integral in the protection of public health. In order to ensure drinking water is free of bacterial concerns, a total chlorine residual of 0.5 mg/L or a free chlorine residual of 0.1 mg/L must be maintained throughout the distribution system. Compliance with disinfection requirements is a good measure of the success of compliance related activities and also a measure of the bacteriological (acute) safety of the water supply. To achieve increased compliance, waterworks operators may be influenced through education, compliance and enforcement actions. There is a high correlation with waterworks having frequent bacteriological samples indicating the presence of bacteria and low chlorine residual maintenance.

What are we measuring?

Number of waterworks that do not meet Saskatchewan Environment's minimum treatment requirements [broken down by pre and post regulatory changes]

Where are we starting from?

22 systems (before regulatory changes)
6 systems (post regulatory changes)
[February 15, 2004]

Certain water treatment actions are required at waterworks as a means to ensure basic treatment and protection of drinking water. For systems using groundwater sources, disinfection is required. Treatment for systems using surface or blended water sources requires an acceptable form of filtration and disinfection. The number of waterworks that do not meet minimum treatment requirements is a good measure of infrastructure water treatment capability. There is a high level of influence through regulations, but given significant costs

associated with treatment plants upgrades, changes to reduce the number of affected waterworks take time. The number of waterworks not meeting minimum treatment requirements is likely to increase as existing but newly regulated waterworks are permitted in the future, since the construction and operation of these works was not previously governed. Since a number of existing waterworks are now governed by recent regulatory changes, this measure recognizes these differences.

OBJECTIVE 3 *- Waterworks systems and operations are financially sustainable*

Ensuring the financial sustainability of the water and wastewater works is critical in the production of safe drinking water and proper wastewater management over the long-term. Waterworks deteriorate over time and therefore may need to be expanded or replaced. Municipalities will therefore need to know the condition of waterworks and put in place pricing and capital investment policies for these systems. Public transparency will aid in ensuring that water and wastewater systems are sustainable into the future.

Key Actions for 2004-05

- Consultation and enactment is planned for regulations requiring municipalities to establish and report to the public pricing and capital investment polices for their waterworks and other related key financial information. This other related information includes expenditures, revenues, capital reserves, estimated number of years of remaining service life of the infrastructure, and level of cost recovery. These regulations will provide greater municipal accountability to ratepayers and promote greater understanding of municipal waterworks. Ratepayers can evaluate this information and determine if they are satisfied with the rate and capital investment policies. [Government Relations and Aboriginal Affairs]

What are we measuring?	**Where are we starting from?**
Number of municipalities with pricing and capital investment policies in place for their waterworks	Less than 5% *(December 2001; latest data available)*

This measure quantifies the number of municipalities that have pricing and capital investment policies in place for their waterworks and directly gauges progress towards the objective. Government influences the measurement results through the establishment of regulations and implementation of penalties for non-compliance. Regulations that will require municipalities to publicly report on pricing and investment strategies will be in place in 2004-05.

GOAL #2

The drinking water regulatory system is clear and effective

OBJECTIVE 1 - *Regulations are clear and ensure that health and drinking water quality will be protected*

Provision of safe drinking water is reliant on regulatory requirements that are clear and communicated to owners and operators of waterworks. Additionally, accepted standards and practices are required to ensure requirements are achieved in the proper manner. Program delivery and related policies are necessary to track and ensure that regulatory requirements are being met. Collectively, these measures will help to ensure that drinking water is safe and that wastewater effluent discharges do not threaten the quality of source waters or adversely impact the environment.

Key Actions for 2004-05

- Permitting requirements and responsibilities have been developed and are being used to update permits that already exist. Permits reflective of the new regulatory requirements and revised water quality monitoring schedules will be issued for newly constructed and already existing works. [Environment]
- Waterworks assessment standards will be provided to waterworks owners to inform them of the requirements and timelines of the assessment process. Work will continue with SUMA and consulting engineers to implement a program to facilitate waterworks assessment in the Province. [Environment]
- Semi-public water systems are regulated through *The Health Hazard Regulations*. Compliance with these regulations is monitored through inspections of the semi-public water systems, ensuring that the operators are routinely sampling the water supply, and reviewing water quality test results. A data management system will be implemented and used to store inspection and water quality information related to the health regulated semi-public water supplies. [Health & Regional Health Authorities]
- More rigorous and frequent inspections of waterworks are to continue across the Province. Education, prevention and enforcement activities will be conducted as needed to ensure waterworks meet requirements. It is expected that two inspections at each surface water and priority groundwater waterworks and one inspection at every other regulated waterworks totaling up to 900 inspections will be completed. [Environment]
- Regulatory requirements and guidelines for upset reporting and equipment failures at waterworks will be implemented. Educational information will be provided to inform waterworks owners of health concerns and compliance timelines for upset reporting. Department staff will respond and give advice in respect to upset reports. [Environment]
- The "Bacteriological Follow-up Protocol for Waterworks Regulated by Saskatchewan Environment" will be updated as necessary to ensure that incidents or concerns are addressed in a manner consistent with best practices or new developments. [Environment]

- A compliance and enforcement framework has been developed and will be implemented to attain compliance with drinking water regulatory requirements. Department technical staff have and will continue to receive enforcement training. The role of enforcement staff for compliance activities has been defined and will continue to be implemented. [Environment]
- Educational, prevention and enforcement activities and inspections in accordance with a newly developed inspection protocol will be stepped up as needed to ensure wastewater works meet requirements. [Environment]

What are we measuring?	**Where are we starting from?**
Number of accredited drinking water testing laboratories	3 *[September 30, 2003]*

The number of accredited laboratories is a good measure of the ability of laboratories to ensure high quality and representative analytical results that reflect the true quality of drinking water. SE influences this measure through the establishment of regulations that require water testing labs to be accredited. However, lab owners must cover the cost of accreditation.

OBJECTIVE 2 *- Professional regulatory staff have access to the tools necessary to ensure compliance*

Provision of safe drinking water is reliant in part on the training and tools that regulatory staff can access. The tools take the form of working agreements, computerized information systems as well as examples, guidelines and templates needed to deliver programming. Staff qualifications must also be assured and kept current with new or evolving water management processes. Collectively, these tools help to ensure that drinking water is safe and that wastewater effluent discharges do not threaten the quality of source waters or adversely impact the environment.

Key Actions for 2004-05

- To strengthen integration between regulators and complete protocols on communicable disease response and information exchange on provincially regulated systems, educational water quality workshops will be held for officials (medical health officers and public health inspectors). [Health and Environment]
- Emergency response protocol templates have been developed and will be provided to aid waterworks owners and operators to prepare and respond to a wide range of water related emergency situations. Waterworks owners will be informed of emergency response concerns and offered specialized workshops on emergency planning. [Environment]
- In order to maintain inspector qualification for regional staff who deliver water programming, all Environmental Project Officers will be required to obtain 0.5 Continuing Education Units in training in the current water and wastewater field. Annual dedicated in-house training and support to attend external training opportunities will be provided to staff to aid in maintaining qualifications. [Environment]

- Further enhancement of the Environmental Management System will be limited to ensuring important historic data for regulated drinking water systems, municipal and industrial wastewaters, and surface water quality are entered into the system and available for use by provincial regulators and scientists. [Environment]

What are we measuring?

Under development

Where are we starting from?

Under development

GOAL #3

High quality source waters are protected now and into the future

OBJECTIVE 1 - *Risks to source water quality are known*

Protection of source water quality is a component of the provision of safe drinking water. Identification of risks to source water quality is the first step in developing actions and strategies to protect source water and minimizing the cost to treat drinking water.

Key Actions for 2004-05

- The risks of wastewater effluent, intensive livestock operations, resort villages, recreational subdivisions, forestry activity, industrial activity and other developments will be determined in order to develop a well understood set of risks to source water quality. Development of source water protection plans will be initiated through the formation of advisory and technical committees in the Lower Souris, Upper Assiniboine, Moose Jaw, Upper Qu'Appelle, South Saskatchewan and North Saskatchewan watersheds, and the Yorkton aquifer as a means to identify risks to watersheds. [Saskatchewan Watershed Authority]

- A groundwater mapping program to allow identification of risks to water quantity and quality will be advanced. Further work to delineate ground water resources in agricultural Saskatchewan will begin with the Piapot groundwater resource assessment pilot project. One new groundwater resource assessment will be initiated and completed while supporting ongoing groundwater mapping activities. [Saskatchewan Watershed Authority]

- Locations where water quality data and hydrometric station data are collected will be identified and the information will be used to assess the potential for integration of monitoring. Training of staff to collect both hydrometric and water quality data will begin. Information on water supplies will be provided to encourage large water use industries to locate where reliable water supplies are available. [Saskatchewan Watershed Authority]

- A water-use monitoring program will be developed and implemented to ensure actual municipal, industrial and agricultural water use is known and is within the allocated amount. [Saskatchewan Watershed Authority]

- Monitoring of surface waters has been reinitiated to determine quality trends and impacts and will be helpful in guiding protection efforts. A new water quality monitoring program will be developed for key indicators of watershed and aquifer health. The Surface Water Quality Objectives will be updated to reflect current conditions and scientific information. [Environment and Saskatchewan Watershed Authority]

- Inspections at sewage treatment facilities in the province will be conducted to identify which systems represent a risk to source water quality. It is expected that new permits for all of the 625 wastewater works will be reissued. Each wastewater works will be inspected once per year in the future. [Environment]
- Review of effluent quality information, industrial effluent permits and permit conditions will continue as a means to identify and manage threats to source water quality. [Environment]
- Intensive Livestock Operation (ILO) application review will continue as a means to identify and manage threats to source water quality. Work with local watershed associations to identify any threats to source water quality from existing ILOs will continue. [Environment]
- An overall review and assessment of municipal wastewater systems effluent quality to identify discharge impacts and risks to source water quality will be undertaken based on inspection information and the results of effluent sample analysis. [Environment]

What are we measuring?	**Where are we starting from?**
Number of sewage effluent discharges that represent a risk to source waters	Under development

The number of sewage effluent discharges that represent a risk to source waters is a good measure of the degree of protection afforded by wastewater treatment systems presently in place. Ensuring a minimum of secondary treatment and proper effluent discharge management will help to reduce risks to source water since wastes will be properly treated and released to the environment. SE has a high level of influence through regulations, but given significant costs associated with upgrading, changes to reduce the number of affected wastewater works takes time.

OBJECTIVE 2 - *Watersheds are protected, natural purification and protection processes are maximized and potential for contamination is minimized*

Protection of source waters can reduce the costs of water treatment, and improve water quality while helping to maintain other water uses. Sound water resource management means that the processes which break down wastes must be protected as must land use practices which can protect water quality from contamination. Actions in terms of both organizational structure and watershed/water management are improving source water protection in the province.

Key Actions for 2004-05

- Work to lead the development of a Canada-wide Strategy for the Management of Municipal Wastewater Effluent (MWWE) will continue. This strategy is being developed through the auspices of the Canadian Council of Ministers of the Environment as a means to forward MWWE management in a consistent manner across Canada. [Environment]

- Initial work on the development of watershed plans, which has begun for seven priority areas, will continue. The development of watershed and aquifer management plans will be facilitated and involve participation and support from stakeholders. [Saskatchewan Watershed Authority]
- Comprehensive management plans will be developed and a land management system will be created for SWA land and to secure critical areas of habitat. This will be accomplished by working with landowners and partners to reduce erosion from channels which run in spring months and stream bank areas in highly cultivated landscapes and by securing voluntary stewardship agreements with 68 targeted landowners to conserve 5,000 hectares of native prairie. In addition, land management plans for the Rafferty/Alameda area, along the Carrot River and along the Qu'Appelle River, will be developed and implemented. [Saskatchewan Watershed Authority]
- An internal review of SWA's five Acts and associated regulations will be completed. This review is intended to determine what, if any, amendments are required to meet the Authority's mandate and prepare drafting instructions for required amendments. [Saskatchewan Watershed Authority]
- Municipalities and stakeholders will be consulted on a new planning act that will include requiring municipal collaboration to implement land use bylaws to protect water sources. The requirements for municipal bylaws will be co-ordinated with SWA's staged implementation of protection of watersheds. This will ensure that the municipalities have bylaws in place that meet the standards required to protect the watersheds. GRAA will be working towards establishing a new planning act in 2005. [Government Relations and Aboriginal Affairs]

What are we measuring?	**Where are we starting from?**
Number of municipalities with bylaws in place to protect their drinking water supplies	11% (89 of 819 municipalities) *[November 2003]*

The number of municipalities with bylaws in place to protect their drinking water supplies is a good measure of source water protection. Bylaws will work towards ensuring safe drinking water. GRAA will encourage water source protection in municipal land use bylaws and has a moderate level of control over municipal bylaws to ensure protection of source waters. New legislation is planned for 2005 and municipalities will be required to have these strategies in place in conjunction with the implementation of SWA's watershed plans.

What are we measuring?

Water Quality Index (WQI) ratings for watersheds within the province

Where are we starting from?

Qu'Appelle – fair to good[1]
South Saskatchewan – good to excellent
North Saskatchewan – good to excellent
Saskatchewan River Basin – good to excellent
[2003-04]

[1] *There are two locations in the Qu'Appelle Basin where the quality would be considered marginal for protection of aquatic life. The basin ranges from fair to excellent for livestock watering and irrigation purposes.*

The Water Quality Index is an overall measure of the quality of water for specific uses such as the protection of aquatic life, livestock watering, recreation, etc. The Index is a composite of different chemicals and organisms in the water at safe levels for a particular use. It is a good measure of the quality of surface or groundwater.

The Government has little direct control over the results of this broad measure of water quality. Samples are collected by industries and municipalities in accordance with their permits, as well as by department staff and other agencies. The levels of chemicals and organisms in the samples are compared with the WQI levels for safety and health of the people.

The assessment of all watersheds using the WQI is a long-term project. Saskatchewan Environment will be using the data collected from its primary monitoring stations on the major watersheds. The WQI rating in the Qu'Appelle River Watershed is expected to improve over the long-term as a result of watershed planning efforts led by SWA.

GOAL #4

Citizens and consumers trust and value their drinking water and the operations which produce it

***OBJECTIVE 1** - Consumers value quality water and are willing to pay for it*

Saskatchewan residents are not always aware of the cost of providing safe drinking water. Protection of source waters, the ability to treat source water and ensure sustainable supplies is dependant on consumers that recognize the value or water and are willing to pay for it at present and in the future.

Key Actions for 2004-05

- Delivery of a public education campaign about source water issues and implications for all water utilization. A public education strategy will be implemented in support of the SDWS and in co-operation with other departments through preparation of feature articles for newspapers and partner and trade magazines, and providing information on SWA's website. The Prairie Update newsletter will be published, as will feature articles for weekly newspapers, partner and trade magazines. Participation in major tradeshows/educational conferences will continue. Information will be provided through a comprehensive website. Delivery of educational programs (Project Wet, Project Wild, Climate Change, etc.) directly linked to the Saskatchewan curricula will continue by offering workshops to teachers in the K-12 system and students in the Faculty of Education at the University of Regina and the University of Saskatchewan. [Saskatchewan Watershed Authority]
- Publications (brochures) and workshop elements will be developed and delivered to inform consumers of the cost and value of water. [Environment]

What are we measuring?	**Where are we starting from?**
Per cent of survey respondents indicating that they are willing to pay more for their drinking water	65% *[May 2003, latest data available]*

The public willingness to pay more for water is a measure of how much the public values safe drinking water provided by means of municipal or public treatment and supply works. It is also an indirect measure of the confidence and trust in drinking water supplies and the water provider's and Government's ability to produce and ensure safe drinking water. Since this is measured through public polling, results could be influenced by events outside the province.

OBJECTIVE 2 - *Citizens and consumers trust the quality and reliability of their drinking water systems and are confident in the regulatory system*

Consumer trust in drinking water and regulatory systems that govern them is vital to ensuring the long-term sustainability of waterworks. Consumers who trust the quality and reliability of their water supplies are more willing to support the production of safe drinking water in the future. Release of polling results also bolsters transparency and public trust.

Key Actions for 2004-05

- The Prairie Water Care Program and the Rural Water Quality Advisory Program will be re-evaluated and re-designed to provide monitoring and assessment support for the watershed planning process. The rural water quality program is a consultation service on drinking water quality for owners of small private systems. Prairie Water Care is an educational, hands-on program for volunteers interested in learning about water quality issues in their local watersheds. [Saskatchewan Watershed Authority]

- A polling strategy will be implemented and published, which will allow tracking of public opinion and trust in drinking water and the associated regulatory systems. This strategy will allow the Department to determine changes in opinion within the province and how those opinions compare with residents of other provinces in Canada. [Environment]

What are we measuring?	**Where are we starting from?**
Per cent of survey respondents indicating that they are very or somewhat confident in the quality of their tap water	87% *[May 2003, latest data available]*

Public confidence in drinking water quality is a good measure of the public trust in the ability of waterworks owners and governments to deal with the challenges of providing safe water. Since this is measured through public polling, results could be influenced by events outside the province.

OBJECTIVE 3 - *Citizens have meaningful access to information about the quality of their water*

Information on water quality is important in building public trust in water systems. Information must be understandable, current and readily accessible. To build full trust, information needs to be available both from the waterworks owner and the regulator.

Key Actions for 2004-05

- Regulatory requirements are in place that mandate the waterworks owners to report annually to the consumers they serve on the quality of water produced and on the owner's compliance with SE's sample submission requirements. Reporting templates for waterworks owners will be distributed and SE will work with those owners seeking to comply with this requirement to aid in successful implementation. [Environment]
- Regulations will be put in place that require municipalities to report to the public on their pricing and capital investment policies for their waterworks and related key financial information, such as expenditures, revenues, supplementary funding required to cover costs, estimated capital replacement costs, capital reserves, estimated number of years of remaining service life of the infrastructure, and level of cost recovery. This information will assist ratepayers' understanding of municipal waterworks and help them determine if they are satisfied with the policies. [Government Relations and Aboriginal Affairs]
- The *Annual Report on the State of Drinking Water Quality in Saskatchewan* will be published. [Environment]
- Further work towards adding information on wastewater and surface water quality to the "SaskH_2O" website will be performed. Work will continue to support the provision of up to date drinking water information through the "SaskH_2O" website (See: http://www.saskh2o.ca). [Environment]

- The preparation, publication and distribution of a State of the Watershed Reporting Framework will be undertaken. This framework will outline proposed watershed scale, timing of reporting, priority of watershed reporting, indicators, and future reporting format. [Saskatchewan Watershed Authority & Environment]
- The feasibility of developing a Drinking Water Quality Index (DWQI) will be assessed to convey information to consumers on water quality and the adequacy of systems that produce drinking water. The DWQI will provide a means for consumers to understand the relative quality of their water (e.g. fair to excellent) and the state of the waterworks which produce it. [Environment]

What are we measuring?	**Where are we starting from?**
Number of system owners that publicly release water quality results	40% *[January 2004]*

The number of system owners that publicly release water quality results is a good measure of the acceptance of waterworks owners in recognizing their responsibility for safety of water and education of public. The Government has a high level of influence in the achievement of this requirement through regulations.

OBJECTIVE 4 *- Reduced consumption of water*

Reduced consumption of water is important in minimizing costs and thereby properly valuing water. Water conservation is also necessary to protect water source quality and abundance, particularly in time of increased demand.

Key Actions for 2004-05

- The adoption of low water use fixtures and the benefits of lower costs associated with reduced consumption will be emphasized during any discussion with communities. SaskWater will promote the efficient utilization of infrastructure capacity such as community water allocations (i.e., from a regional water supply system), which will benefit from more accurately reflecting actual water usage. [SaskWater]
- A brochure to educate the public of the benefits of reduced water consumption, conservation and reuse will be developed. Workshop presentation elements as a further means to deliver these messages will also developed and delivered. [Environment]
- A water conservation strategy will be developed that will review all water use sectors to determine current and future policy requirements and possible conservation targets. [Saskatchewan Watershed Authority]

What are we measuring?	Where are we starting from?
Average per capita consumption of water [gallons per day]	77.4 gallons per day *[2003]*

This measure quantifies the average water usage on a per capita basis and directly supports gauging progress towards the objective. The Government has a limited degree of control over this measure. However, it can influence the measurement result through its educational efforts.

Where to Obtain Additional Information

If you have any questions or comments about the plan, or would like additional copies, we invite you to call:

Saskatchewan Environment's Inquiry Centre: (306) 787-2700
Toll free in Saskatchewan: 1-800-567-4224

Or visit us online at:
http://www.se.gov.sk.ca

Additional information on drinking water is available at:
http://www.se.gov.sk.ca/environment/protection/water/water.asp
http://www.se.gov.sk.ca/environment/protection/water/drinking.asp
http://www.saskh2o.ca/